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ABSTRACT

CITY III is a computer-assisted simulation game in which participants make decisions affecting the economic, governmental, and social conditions of a simulated urban area. In one of its five city options (called Lothian) the CITY III simulation model focuses on a micro-view of an urban area by reducing the level of aggregation. The population is reduced ten times so that each population unit equals 50 persons (instead of 500) and each unit of linear measure equals one-third of a mile (instead of a mile). The numerical parameters for each decision-making sector in this small scale version are presented in the form of a set of "Master Sheets" and input explanation charts. The "Master Sheets" and charts for the other four versions are contained in the Players' Manual. (JY)

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CITY III -- SMALL SCALE

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MASTER SHEETS

MASTER SHEET FOR BASIC INDUSTRY

	HI1	LI1	NS1
Land Development			
Typical Construction Cost	$10,500,000	$6,500,000	$5,000,000
Land Requirement	28%	24%	20%
Depreciation and Maintenance Rates			
Annual Normal (%)	3.1	2.6	3.0
As a Result of MS Quality (%)	3.1Q	2.6Q	3.0Q

[Note: $Q = \frac{\text{MS Use Index} - 100}{100}$]

Income			
Maximum Output (design capacity)	1000 units	1000 units	1000 units
Average Price per Unit (set by "Outside System"	$19,000.	$11,500	$11,000
Average Maximum Gross Income	$19,000,000	$11,500,000	$11,000,000
Expenditures			
Employment Requirements			
PH - 12 workers	21(0)	15(0)	23(1)
PM - 16 workers	29(1)	11(1)	9(0)
PL - 20 workers	9(0)	11(1)	9(0)

[Note: Numbers in parentheses indicate part-time employment units.]

Typical Wage Bill (if at full employment and typical salaries of $10,000, $5,000 and 2,500 are offered)	$5,370,000	$3,360,000	$4,050,000
BG and BS Requirements			
For 1% Maintenance and/or Renovation			
BG:	9 units	4 units	1 unit
BS:	1.5 units	2.5 units	4 units

Master Sheet for Basic Industry - (Cont'd)

for Normal Operations	HI1	LI1	NS1
BG	420 units	190 units	60 units
BS	60 units	100 units	230 units

[Note: BG and BS can be purchased either from local BG and BS establishments at competitive prices or from the outside system at a fixed price of $13,000 per unit.]

Utility Requirements	402 units	135 units	76 units

[Note: The price for utility service is set by the Utility Department. The "typical" price is $1,000 per unit.]

Transportation			
Charges per distance unit			
Along HY3 to:			
BG	$16/CU	$16/CU	$16/CU
BS	$16/CU	$16/CU	$16/CU
Terminal	$28,000	$8,500	--------

[Note: An HY3 is the least expensive road. Charges are double on an HY2 and triple on an HY1.]

Taxes	
Local	Local tax rates are set by the Chairman
Property	
Sales	
Federal and State	
Business Income (State)	5% of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus state sales tax and local sales tax, and minus property tax).
Business Income (Federal)	22% of first $25,000 of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus state sales tax, minus local sales tax, minus property tax, minus state income tax) Plus 48% of rest (minus the same deductions).
Sales Tax (State)	3% of the total purchases of BG and BS.

MASTER SHEET FOR THE CONSTRUCTION INDUSTRY

	CI1
Land Development	
Development Cost (equipment units)	$12,000,000
Land Requirement	20%
Depreciation (equipment)	
As a Function of Use	.04C*
Capacity (equipment units)	1000
Expenditures	
Employment Requirements	1 population unit of each class per 50 units of labor
Typical Wage Bill (if typical salaries of $10,000, $5,000 and $2,500 are offered)	$250,000 per 50 units of labor
Per unit of Equipment	
BG	.44 units
BS	.06 units

[Note: BG and BS may be purchased either from local BG and BS establishments at competitive prices or from the "Outside System" at "fixed cost" of $13,000 per unit.]

Transportation Charges per distance unit along HY3 per CU of construction	
to BG:	$7
to BS	1
to Build Site	2

[Note: A HY3 is the least expensive road to travel. Costs are double on a HY2 and triple on a HY1.]

*C = $\frac{\text{equipment units used}}{\text{design capacity}}$

Master Sheet for the Construction Industry -- Cont'd

Taxes	
Local	
Property	Local Tax Rates are set by the Chairman
Sales	
Federal and State	
Business Income (State)	5% of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus state sales tax and local sales tax, and minus property tax).
Business Income (Federal)	22% of first $25,000 of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus local sales tax, minus state sales tax, minus property tax, minus state income tax)
	plus 48% of rest (minus the same deductions).
Sales Tax (state)	3% of the total purchases of BG and BS.

MASTER SHEET FOR THE CONSTRUCTION INDUSTRY

Construction Capacity Requirements

Land Use	Construction Units of Equipment	Units of Material	Units of Labor	Demolition Units of Equipment	Demolition Units of Material
Basic Industry					
HI1	525	525	525	105	359
LI1	325	325	325	65	222
NS1	250	250	250	50	171
Local Service Industry					
BG1	125	125	125	25	86
BS1	50	50	50	10	34
PG1	150	150	150	30	103
PS1	50	50	50	10	34
Residences*					
RA1	5	5	5	1	3
RB1	30	30	30	6	21
RC1	125	125	125	25	86
Public Structures					
SC1	135	135	135	27	92
MS1	150	150	150	30	103
HY1	4	4	4	1	3
TM1	70	70	70	14	42

*These requirements of equipment, materials, and labor are for residence construction at QI = 100. But new housing can be built at a lower quality index (as low as QI = 40). Requirements diminish according to the equation: $R = 1/200\ S(100 + X)$ where S is the units of equipment and material or the units of labor required to build a residence at QI = 100 and R is the units required to build the same type of residence at QI = X. Using an RC1 as an example, the requirements at QI = 80 are 113, at QI = 60 are 100, and at QI = 40 are 80.

MASTER SHEET FOR COMMERCIAL ESTABLISHMENTS

	BG1	BS1	PG1	PS1
Land Development				
Typical Construction Cost	$2,500,000	$1,000,000	$3,000,000	$1,000,000
Land Requirements	24%	20%	16%	12%
Depreciation and Maintenance				
Depreciation Rates				
Annual Normal (%)	1.5	2.0	1.6	2.2
As Result of MS Quality (%)	2.5Q*	3.0Q	2.6Q	3.2Q
As Result of Use	.015C**	.02C	.016C	.022C
Income				
Design Capacity (units)	5,000	1,500	16,000	8,000
Typical Price per unit	$10,000	$10,000	$1,000	$1,000
Typical Maximum Income	$50,000,000	$15,000,000	$16,000,000	$8,000,000
Expenditures				
Employment Requirements				
PH - 12 workers:	14(1)	20(1)	8(0)	6(0)
PM - 16 workers:	7(0)	9(0)	13(1)	11(1)
PL - 20 workers:	8(0)	9(0)	22(2)	16(2)
Typical Wage Bill (If at full-employment and typical salaries of $10,000; $5,000 and $2,500 are offered)	$2,760,000	$3,690,000	$3,280,000	$2,580,000

[Note: Numbers in parentheses indicate part-time employment units.]

[Note: $*Q = \frac{\text{MS Use Index} - 100}{100}$

$**C = \frac{\text{(Actual Use of Commercial Establishment)}}{\text{(Effective Capacity of Commercial Establishment)}} - 1$

Master Sheet for Commercial Establishments - (Cont'd)

	BG1	BS1	PG1	PS1
BG and BS Requirements per unit of output				
For Normal Operation				
Outside	$8,300 (fixed cost)	$5,800 (fixed cost)	----	----
BG	-----	----	.037 units	.03 units
BS	-----	----	.017 units	.01 units
For 1% Renovation & Maintenance				
Outside	$25,000 (fixed cost)	$10,000 (fixed cost)	----	----
BG			2 units	.75 units
BS			1 unit	.25 units

[Note: BG and BS can be purchased from either local BG and BS establishments (except for BG and BS establishments which cannot purchase from themselves) at competive prices or from the "Outside System" at a fixed cost of $13,000 per unit.]

Utility Requirements	112 units	71 units	99 units	77 units

[Note: The price for utility service is set by the Utility Department. The "typical" price is $1,000 per unit.]

Transportation Charges			
Per unit of output			
Per distance unit on HY3			
from Terminal	$13.3		
to BG		.57	.50
to BS		.27	.17

[Note: An HY3 is the least expensive road. Costs are double on an HY2 and triple on an HY1.]

Taxes	
Local	
Property	Local tax rates are set by the Chairman
Sales	

Master Sheet for Commercial Establishments - (Cont'd)

Federal and State Business Income (State)	5% of (gross income minus salaries minus goods and services payments, minus maintenance payments, minus state sales tax and local sales tax, and minus property tax).
Business Income (Federal)	22% of first $25,000 of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus state sales tax, minus local sales tax, minus property tax, minus state income tax) plus 48% of rest (minus the same deductions).
Sales Tax (State)	3% of the total purchases of BG and BS.

MASTER SHEET FOR RESIDENCES

	RA1	RB1	RC1
Land Development			
Typical Construction Cost (at VR = 100)	$100,000	$600,000	$2,500,000
Land Requirement	12%	12%	12%
Depreciation and Maintenance			
Depreciation Rates			
Annual Normal (%)	2	3	4
Result of MS Quality (%)	1Q	1Q	1Q
Design Capacity			
PH	1	6	25
PM	1.5	9	37.5
PL	2	12	50
Rent			
Typical Rents/PL1			
PH tenants	$16,500	$16,500	$16,500
PM tenants	15,000	15,000	15,000
PL tenants	14,000	14,000	14,000
Income--Typical Rent at Design Capacity			
PH	33,000	198,000	825,000
PM	30,000	180,000	750,000
PL	28,000	168,000	700,000
Expenditures			
PG and PS requirements For 1% Renovation or Maintenance			
PG	.7 units	4 units	17 units
PS	.3 units	2 units	8 units
Utility Requirements	4 units	26 units	117 units

[Note: $Q = \frac{\text{MS Use Index} - 100}{100}$]

[Note: PG and PS may be purchased either from local PG and PS establishments or from the "Outside System" at a fixed price of $1,300 per unit.]

[Note: Prices for utility service are set by the Utility Department. The "typical" price for a unit of service is $1,000.]

Master Sheets for Residences - (Cont'd)

Taxes	
Local	
Property	Local tax rates are set by the
Sales	Chairman
Federal and State	
Business Income (State)	5% of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus state sales tax and local sales tax, and minus property tax).
Business Income (Federal)	22% of first $25,000 of (gross income minus salaries, minus goods and services payments, minus maintenance payments, minus state sales tax, minus local sales tax, minus property tax, minus state income tax). plus 48% of rest (minus the same deductions) 3% of the total purchases of PG and PS.
Sales Tax (State)	3% of the total purchases of PG and PS.

MASTER SHEET FOR SOCIAL SECTOR

	PH	PM	PL
Population Characteristics	High	Middle	Low
Number of People	50	50	50
Number of Workers	12	16	20
Number of Students	13	14	10
Normal Number of Registered Voters	20	14	10
Educational Range	70-99	40-69	0-39
Economic Characteristics			
Typical Salary per Worker	$10,000	$5,000	$2,500
Typical Salary per Population Unit	$120,000	$80,000	$50,000
PG and PS requirements			
PG	34 units	28 units	21 units
PS	16 units	11 units	7 units

[Note: PG and PS may be bought from local PG and PS establishments at competitive prices (about $1,000 per unit) or from the "Outside System" at a fixed price of $1,300 per unit.]

Typical Rents	$33,000	$20,000	$14,000

[Note: Rents are set by economic decision-makers. Actual rents may range above or below these figures.]

Transportation Charges			
Travel to Work by			
Auto			
Base Cost	$210/worker	$190/worker	$140/worker
+			
Distance Unit Cost on			
HY1	$20/worker/DU	$18/worker/DU	$16/worker/DU
HY2	$16/worker/DU	$15/worker/DU	$13/worker/DU
HY3	$13/worker/DU	$12/worker/DU	$10/worker/DU
Travel to Work by Bus	Rates set by Bus Company		
Travel to PG by Auto			
Cost per Distance Unit on HY3:	$2 per Unit Consumed	$2 per Unit Consumed	$2 per Unit Consumed

Master Sheet for the Social Sector -- (cont'd)

	PH	PM	PL
Travel to PS by Auto Cost per Distance Unit on HY3	$2 per Unit Consumed	$2 per Unit Consumed	$2 per Unit Consumed
Cost of Private Education	$3,750	$2,500	$1,250
Taxes			
Local	Local tax rates set by Chairman		
Sales			
Income			
Federal-State			
Sales	3% of total purchase of PG/PS		
Income	12% (wages)	6% (wages)	3% (wages)
Social Characteristics			
Units of Time to Allocate	100 time units	100 time units	100 time units
Time Consumption			
Travel to Work per Distance Unit on Uncongested			
HY1	1 time units	1 time units	1 time units
HY2	.67 time units	.67 time units	.67 time units
HY3	.33 time unit	.33 time unit	.33 time unit
By Bus Per Distance Unit on			
HY1	1.3 time units	1.3 time units	1.3 time units
HY2	1 time units	1 time units	1 time units
HY3	.67 time units	.67 time units	.67 time units
Waiting	1 time unit	1 time unit	1 time unit
Walk	.33 time unit	.33 time unit	.33 time unit

[Note: Highway congestion (for auto or bus) increases time consumption in direct proportion to the amount of congestion that occurs.]

Master Sheet for the Social Sector (cont'd)

	PH	PM	PL
Extra Work			
Units of Time for Full-Time Job	80	80	80
Typical Salary per time unit	$1,500	$1,000	$625
Adult Education			
Annual Time Units required to maintain maximum education level	27	20	26
Cost per Time Unit for private adult education	$300	$300	$300
Politics			
Units of Time for 7% increase in voters	10	10	10
Units of time for 10% increase in voters	50	50	50
Units of time for 15% increase in voters	60	60	60
Recreation			
Units of PG per unit of time	.1	.05	.025
Units of PS per unit of time	.075	.05	0

MASTER SHEET FOR THE SCHOOL DEPARTMENT

General Characteristics

	SC1
Land Development	
Typical Construction Cost	$2,700,000
Land Requirement	16%
Depreciation and Maintenance	
Annual Depreciation Rate	2%
BG and BS Requirements	
For 1% Renovation or Maintenance	
BG	2 units
BS	.7 units
For Normal Operation	
BG	8 units
BS	3 units
Federal-State Aid	
Capital	$1 for every local $1
Current (automatic)	$225 per student

Design Capacity (students) as a Function of Employment Mix

PM Teacher Units / PH Teacher Units	0	1	2	3	4	5	6
0		252	414	684	990	1,224	1,314
1	360	591	846	1,120	1,332	1,530	1,710
2	720	990	1,260	1,550	1,746	1,944	2,124
3	1,080	1,404	1,692	2,000*	2,196	2,376	2,556
4	1,314	1,746	2,106	2,340	2,520	2,700	2,862
5	1,710	2,070	2,340	2,664	2,844	3,000	3,150
6	1,980	2,385	2,682	2,988	3,132	3,285	3,420

*The least cost design capacity of an SC1

[Note: There are 12 teachers in a PH and 16 teachers in a PM.]

Master Sheet for the School Department -- Cont'd)

Population Unit Characteristics

Characteristics	PH	PM	PL
Number of students	13	14	10
Criteria for Refusal attend Public Schools			
Value Ratio (Min.)	80	60	
Student-Teacher Ratio (Maximum)	18:1	22:1	
Ratio of High to Middle Teachers (Minimum)	1:1	3:4	
Cost of Private Education (for students)	$3,750	$2,500	$1,250

Capital Federal-State Aid

1st Request: 60% chance of acceptance when students/school = 1,800

2nd Request: 40% chance of acceptance when students/school = 1,800

3rd Request: 30% chance of acceptance when students/school = 1,800

MASTER SHEET FOR MUNICIPAL SERVICES DEPARTMENT

General Characteristics

Land Development	MS 1
Typical Construction Cost	$3,000,000
Land Requirement	12%
Depreciation and Maintenance	
Annual Depreciation Rate	3.3%
BG and BS Requirements	
For 1% Renovation or Maintenance	
BG	2 units
BS	1 unit
For Normal Operation	
BG	7 units
BS	3 units

Design Capacity (MS units) as a Function of Employment Mix

PL Worker Units	0	1	2	3	4	5	6
PM Worker Units							
0		140	230	380	500	680	730
1	200	330	470	620	740	850	950
2	400	550	700	860	970	1,080	1,180
3	600	780	940	1,100*	1,220	1,320	1,420
4	730	970	1,170	1,300	1,400	1,500	1,590
5	950	1,150	1,300	1,580	1,580	1,670	1,750
6	1,100	1,325	1,490	1,660	1,740	1,825	1,900

[Note: There are 16 workers in a PM and 20 workers in a PL.]

*The least cost design capacity of MS1

Drain on Municipal Services

Land Use	Drain of MS Units
HI1	105
LI1	65
NS1	50

Master Sheet for Municipal Services Department -- Cont'd

Drain on Municipal Services (Cont'd)

Land Use	Drain of MS Units
BG1	25
BS1	10
PG1	30
PS1	10
RA1	10
RB1	60
RC1	250

MASTER SHEET FOR THE HIGHWAY DEPARTMENT

General Characteristics

	HY1	TM1
Land Development		
Typical Construction Costs	$26,600	$1,400,000
Land Requirements	8% from 2 sides	12% from 4 sides

[Note: Land requirements for HY2 are 12% and for HY3 are 16% (from both sides of roadbed) and for TM2 are 16% and TM3 are 20% (from all four corners).]

Depreciation and Maintenance		
Depreciation due to Use	5.0Z	None

[Note: Z = actual use/effective capacity; it is not applicable unless Z > 0]

BG and BS Requirements		
For 1% Renovation or Maintenance		
BG	$233/distance unit (fixed cost)	---------
BS	$ 33/distance unit (fixed cost)	---------

Design Capacity	500 units per distance unit	10,000 units

Road Unit Consumption per Distance Unit	
To Work by Auto	10 units per population unit
To Work by Bus	
Level 1	50 units
Level 2	100 units
Level 3	150 units

Master Sheet for the Highway Department (Cont'd)

	HY1	TM1
Terminal Unit Consumption		
by: HI1		3000 units
LI1		1000 units
BG1		1 unit per CU sold
Federal-State Aid		
(for approved construction projects)		
HY1	0	
HY2	$1 for every local $9	
HY3	$1 for every local $1	

MASTER SHEET FOR PLANNING AND ZONING

Zoning Classification

Land Use	Classification
Any Use	00 or ---
Any Business	10
Any Manufacturing	20
HI	21
LI	22
CI	23
Any Commercial	30
NS	31
BG	32
BS	33
PG	34
PS	35
Any Residential	40
RA	41
RB	42
RC	43
Parkland	50

Federal-State Aid is available for purchase of land with the probability that aid will be granted increasing as the amount of the request decreases and existing ratio of population/square mile of parkland increases

MASTER SHEET FOR THE UTILITY DEPARTMENT

General Characteristics

Level of Service	Installation Costs paid to Outside	Maximum Amount of Utility Units Installed
Level 1	200,000	100
Level 2	400,000	200
Level 3	500,000	300
Level 4	600,000	400
Level 5	800,000	500
Level 6	1,100,000	600
Level 7	1,400,000	700
Level 8	1,800,000	900
Level 9	2,800,000	1,300

Variable Cost Function of a UT1

Utility Units Served	Per Unit Operating Costs	Total Operating Costs
300	$2,000	$600,000
600	1,333	800,000
900	963	866,666
1200	777	933,333
*1500	*666	1,000,000
1800	740	1,333,333
2100	793	1,666,666
2200	808	1,777,777
2500	844	2,111,111
2800	873	2,444,444

*The least cost design capacity of a UT1.

Utility Units Consumed

Land Use	Consumption
Basic Industries	
HI1	402
LI1	135
NS1	76
Commercial Establishments	
BG1	112
BS1	71
PG1	99
PS1	77

Utility Units Consumed (Cont'd)

Residences	
RA1	4
RB1	26
RC1	117

NOTE: Typical price for utility service is $10,000 per unit. The construction cost of a utility plant is $12,000,000. Utility plants must be built by the Outside.

MASTER SHEET FOR BUS COMPANY

General Characteristics

Operating Expenses	
Fixed Cost of equipment per distance unit	$13,000 (13 units)
Employment	
Typical cost of labor per distance unit	1,300
Units of labor required per distance unit	16

[NOTE: Bus hires middle income (PM) workers only. There are 16 workers in a PM. The typical salary per worker is $5000. One PM supplies 1000 units of labor and 50 units of labor are required to operate a bus (level 1) for one distance unit.]

Depreciation and maintenance of equipment	
Average rate (annual)	3.5%
BG and BS requirements for 1% renovation or maintenance	
BG	$4/unit of equipment
BS	$6/unit of equipment
Passenger Capacity (people) When value ratio = 100	
Level 1 Route	300
Level 2 Route	600
Level 3 Route	900

INPUT EXPLANATION FORMS

ECONOMIC DECISION-MAKERS: INPUT EXPLANATION FORM

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Purchase or bid on land	$PU	A, B, C, etc.	location	price (in $100's)	seller (economic decision-maker or department and jurisdiction or, if bid, OU)	if from department, percent of parcel	
Change Rents	$CVPT	A, B, C, etc.	R	location	new rent/PL1 (in $100's)		
Change Prices	$CVPT	A, B, C, etc.	P	location	basic price/CU (in $10's)		
Change Salaries	$CVPT	A, B, C, etc.	S	location	salary to low income (specified as salary per worker in $100's)	salary to middle income (specified as salary per worker in $100's)	salary to high income (specified as salary per worker in $100's)
Change Maintenance Level	$CVPT	A, B, C, etc.	M	location	new maintenance level		
Lend Money	$OTHER	A, B, C, etc.	LO	amount (in $1,000's)	term (2 or 25)	interest rate (in mils)	borrower
Borrow Money from the Outside System	$OTHER	A, B, C, etc.	BO	amount (in $1,000's)	term (2 or 25)		

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Invest in speculative stocks	$OTHER	A, B, C, etc.	SP	amount (in dollars)			
Invest in conservative stocks	$OTHER	A, B, C, etc.	CN	amount (in dollars)			
Sell speculative stocks	$OTHER	A, B, C, etc.	SELLSP	amount (in dollars)			
Sell conservative stocks	$OTHER	A, B, C, etc.	SELLCN	amount (in dollars)			
Build, upgrade, or demolish by Outside System	$OUBLD	A, B, C, etc.	site location	land use	Old level (0 if new new building	new level (0 if demolition)	maintenance level
			f	g	h	i	
			if residence, quality index; if business, salary to low-income worker (in $100's)	if residence, 0; if business, salary to middle income worker (in 100's)	if residence, rent per PL1 (in $100's); if business, salary to high income worker (in $100's)	if commercial (BG, BS, PG, PS), price/CU (in $10's)	

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Build, upgrade, or demolish by local Construction Industry	$BUILD	CI owner	CI location	contractee (economic decision-maker or department and jurisdiction)	site location	land use (RA, RB, RC, HI, LI, NS, BG, BS, PG, PS, SC, HY, TM, MS)	old level (0, if new building)	new level (0, if demolition)

g	h	i	j	k	l
agreed price (in $10,000's)	maintenance level unless HY or TM; if HY or TM is on jurisdiction boundaries, list of jurisdictions separated by commas	if residence, quality index; if business, salary to low income worker (in $100's); if SC or MS, number of middle or low income Pl's employed there	if residence, 0; if business, salary to middle income worker (in $100's); if SC or MS, number of high or middle income Pl's working there	if residence, rent per PL1 (in $100's) if business, salary to high income worker (in $100's)	if commercial (BG, BS, PG, PS) price/CU (in $10's)

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Transfer cash	$CASH	A, B, C, etc.	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	PVT	if economic decision-maker receiving, PVT; if department receiving, CAPital or CURrent account	
Boycott commercial establishments	$BYCT	A, B, C, etc.	E	land use boycotting	S	location boycotted	Stop the boycott or Begin it	

CITY III -- SMALL SCALE

SOCIAL DECISION-MAKERS: INPUT EXPLANATION FORM

Type of Decision	Code	Decision Maker	a	b	c	d	e	f	g
Allocate time by jurisdiction, by class	$TIME	AA, BB, CC, etc.	class (H M, or L) and jurisdiction (1, 2, or 3)	time units in extra work; if none, 0	time units in public adult education if none,	time units in adult education; if none, 0	time units in politics; if none, 0	time units in recreation; if none, 0	
Allocate time by jurisdiction, by class, by parcel	$TIME	AA, BB CC, etc.	class (H, M, or L) and jurisdiction (1, 2, or 3)	time units in extra work; if none, 0	time units in public adult education if none	time units in adult education; if none, 0	time units in politics; if none, 0	time units in recreation; if none, 0	residence location
Boycott	$BYCT	AA, BB CC, etc.	S	class boycotting (H, M, or L)	function boycotted (Shop or Work)	location boycotted (0 if department)	Stop the boycott or Begin it	if applicable, department (SC, MS) and jurisdiction (1, 2, or 3)	
Change dollar value of time for Pl's	$VALUE	AA, BB CC, etc.	class (H, M, or L)	dollar value of time unit travelling					

CHAIRMAN & COUNCIL: INPUT EXPLANATION FORM

Type of Decision	Code	Decision Maker	a	b	c	d	e
Grant Capital Appropriations	$CASH	CH1, CH2 or CH3	CP	department receiving and jurisdiction	amount (in dollars)		
Grant Current Appropriations	$CASH	CH1, CH2 or CH3	CR	department receiving and jurisdiction	amount (in dollars)		
Grant Current Subsidy	$CASH	CH1, CH2 or CH3	CURS	department receiving and jurisdiction	amount (in dollars)		
Grant Capital Subsidy	$CASH	CH1, CH2 or CH3	CAPS	department receiving and jurisdiction	amount (in dollars)		
Transfer Cash	$CASH	CH1, CH2 or CH3	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	CUR	if economic decision-maker receiving, PVT, if department receiving, to CAPital or CURrent account
Grant Subsidy to Economic Decision-Maker	$CASH	CH1, CH2 or CH3	SB	receiver	amount (in dollars)		

Type of Decision	Code	Decision Maker	a	b	c	d	e
Set Welfare Payments	$OTHER	CH1, CH2 or CH3	W	amount per unemployed worker (in $100's)			
Change land tax rate	$TAXES	CH1, CH2 or CH3	L	land tax rate (in mils)			
Change development tax rate	$TAXES	CH1, CH2 or CH3	D	development rate (in mils)			
Change resident (or employee) income tax rate	$TAXES	CH1, CH2 or CH3	RI (or EI)	resident (or employee) income (in mils)			
Change resident (or employee) auto tax rate	$TAXES	CH1, CH2 or CH3	RA (or EA)	resident (or employee) auto expenses (in mils)			
Change goods sales tax rate	$TAXES	CH1, CH2 or CH3	G	goods tax rate (in mils)			
Change services sales tax rate	$TAXES	CH1, CH2 or CH3	S	services tax rate (in mils)			
Float Capital Bonds	$OTHER	department receiving and jurisdiction	BO	amount (in $1,000's)	25		

CITY III -- SMALL SCALE

ASSESSMENT DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Decision Code	Decision Maker	a	b	c
Change Development Assessment Rates for all land uses jurisdiction-wide	$ASMNT	AS1,AS2 or AS3	D	Development Assessment Rate in tenths of a percent (i.e., "500" equals "50%")	
Change Development Assessment Rate for a particular land use	$ASMNT	AS1,AS2 or AS3	D and land use code (i.e., DH1 DLI, DNS, DCF, DBG, DBS, DPG, DPS, DRA, DRB, or DRC)	Development Assessment Rate in tenths of a percent (i.e., "500"equals "50%")	
Change Land Assessment Rate Jurisdiction-wide	$ASMNT	AS1, AS2 or AS3	L	Land Assessment Rate in tenths of a percent (i.e., "500" equals "50%")	

Type of Decision	Decision Code	Decision Maker	a	b	c	d	e
Change Land Assessment Rate for parcels with a particular land use	$ASMNT	AS1, AS2 or AS3	L and land use code (i.e. LHI, LLI, LNS, LCI, LBG, LBS, LPG, LPS, LRA, LRB, LRC, or LUL)[1]	Land Assessment Rate in tenths of a percent (i.e., "500" equals "50%")			
Define Special Zones[2]	$ASMNT	AS1, AS2 or AS3	SZ	zone number (1,2,3,4, etc.)	list of upper left and lower right inter-sections coordinates[3]		if any other special zone is to have same special rates as this, zone number here
Change Development or Land Assessment Rates within a Special Zone	$ASMNT	AS1, AS2 or AS3	Develop-ment or Land	Land or Development Assessment Rate in tenths of a percent (i.e., "500" equals "50%")	Zone number		

A

1. "UL" is the land use code for undeveloped land.
2. No special zones are carried from one round to the next, they must be re-defined each round before any special rates by zone are initiated.
3. Intersection coordinates are odd-numbered. Thus "9125, 9933" would include all parcels in the rectangle formed by parcel 9226 in the upper left hand corner and parcel 9832 in the lower right hand corner.

Type of Decision	Decision Code	Decision Maker	a	b	c	d
Change Development Assessment Rate for a particular land use or change Land Assessment rate for parcels with a particular land use within a special zone.	$ASMNT	AS1,AS2 or AS3	Development or Land and land use code (i.e., DHI, DLI, or LHI, LLI, etc.)	Land or Development Assessment Rate in tenths of a percent (i.e., "500" equals "50%")	Zone number	
Make Special Assessments for land and developments	$ASMNT	AS1,AS2 or AS3	SA	Location	Assessed value of land (in $10,000's)	Assessed Value of Developments (in $10,000's)

NOTE: After all assessment decisions are made, write "ASMNT/#AS1,2,or3/END" on the last line of the input decision form.

CITY III -- SMALL SCALE
SCHOOL DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Purchase or bid on land	$PU	SC1, SC2, or SC3	location	price (in $100's)	seller (economic decision-maker or department)	percent of parcel (0 if all)		
Change employment	$CVPT	SC1, SC2, or SC3	E	location	new number of PM units working there	new number of PH units working there		
Change maintenance level	$CVPT	SC1, SC2, or SC3	M	location	new maintenance level			
Change district boundaries	$REDIST	SC1, SC2, or SC3	location of school	list of new parcels in district in parentheses*				

*Parcels can be listed within parentheses by specifying upper left and lower right hand corners separated by " > ". Example:

$REDIST/=SC1/9232 > 10040)

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Request Federal-state aid	$FSA	SC1, SC2, or SC3	new level of school for which aid is requested (1, 2, or 3)	location				

	Code		a	b	c	d	e	f	g
Change salaries	$OTHER	SC1, SC2, or SC3	S	salary to middle income worker (in $100's)	salary to high income worker (in $100's)				

	Code		a	b	c	d	e	f	g
Construct, upgrade or demolish a school by the "Outside System"	$OUBLD	SC1, SC2, or SC3	site location	SC	old level (0, if new building)	new level (0, if demolition)	new maintenance level	number of PM's working	number of PH's working there

	a	b	c	d	e	f
Construct, upgrade or demolish a school by the local Construction Industry	[See CI owner]					

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Transfer cash	$CASH	SC1, SC2, or SC3	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	from CAPital or CURrent account	if economic decision-maker receiving, PVT; if department receiving, to CAPital or CURrent account	
Award BG or BS contracts	$CVPT	SC1, SC2, or SC3	C	location of BG or BS establishment	percent of total BG or BS purchase to be bought there	new priority	displaced priority	owner of BG or BS Establishment
Request adult education teachers	$OTHER	SC1, SC2, or SC3	EA	number of middle-income time units requested	number of high-income time units requested			

CITY III -- SMALL SCALE

MUNICIPAL SERVICES DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Purchase or bid on land	$PU	MS1, MS2, or MS3	location	price (in (100's)	seller (economic decision-maker or department and jurisdiction or OU)	percent of parcel (0 if all)	
Change employment	$CVPT	MS1, MS2, or MS3	E	location of plant	new number of PL's working there	new number of PM's working there	
Change maintenance level	$CVPT	MS1, MS2, or MS3	M	location of plant	new maintenance level		
Change district boundaries	$REDIST	MS1, MS2, or MS3	location of MS plant	list of new parcels in parentheses*			

*Parcels can be listed within parentheses by specifying upper left and lower right hand corners separated by " > ". Example:

$REDIST/=MS/9230,(9232 > 10040)

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Award BG or BS contracts	$CVPT	MS1, MS2, or MS3	C	location of BG or BS establishment	percent of total BG or BS purchase to be bought there	new priority	displaced priority	owner
Change salaries	$OTHER	MS1, MS2, or MS3	S	new salary to low-income worker (in $100's)	new salary to middle-income worker (in $100's)			

			a	b	c	d	e	f	g
Construct, upgrade, or demolish an MS plant in the "Outside System"	$OUBLD	MS1, MS2, or MS3	site	MS	old level (0 if new building)	new level (0 if demolition)	maintenance level	new number of PL's working there	new number of PM's working there

	a	b	c	d	e	f
Construct, upgrade or demolish MS plant by a local Construction Industry	[see CI owner]					

Type of Decision	Code	Decision-Maker	a	b	c	d	e	f
Transfer cash	$CASH	MS1, MS2, or MS3	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	from CAPital or CURrent account	if economic decision-maker receiving, PVT; if department receiving, to CAPital or CURrent account	

CITY III -- SMALL SCALE

HIGHWAY DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Code	Decision Maker	a	b	c	d	e
Purchase or bid on land	$PU	HY1, HY2 or HY3	location	price (in ($100's)	seller economic decision-maker or department and jurisdiction or OU)	percent of parcel (0 if all)	
Change Maintenance Level	$OTHER	HY1, HY2 or HY3	M	new maintenance level	type of road (1, 2, or 3)		
Construct, upgrade or demolish a road or terminal by the "Outside System"	$OUBLD	HY1, HY2 or HY3	site location	HY if road TM if terminal	old level (0 if new road or terminal)	new level (0 if demolition)	if on jurisdiction boundary, jurisdiction numbers, separated by commas
Construct, upgrade or demolish a road or terminal by the local construction Industry	[See CI owner]						
Request federal-state aid	$FSA	HY1, HY2 or HY3	new level for which aid requested (1, 2, or 3)	list of coordinates of end intersections of straight road sections in parentheses [e.g., $FSA/=HY1/2,(9927, 9931, 9931, 8731)			

HIGHWAY DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Code	Decision Maker	a	b	c	d	e
Transfer Cash	$CASH	HY1, HY2 or HY3	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	from CAPital or CURrent account	if economic decision-maker is receiving, PVT; if department is receiving, to CAPital or CURrent account

PLANNING AND ZONING DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Purchase or bid on land	$PU	PZ1, PZ2, or PZ3	location	price (in $100's)	seller (economic decision-maker or department and jurisdiction or OU)	percent of parcel (0 if all)	
Change zoning	$CVPT	PZ1, PZ2, or PZ3	Z	location	new zoning code		
Request Federal-state aid	$FSA	PZ1, PZ2, or PZ3	amount (in $100's)	[maximum 3 requests]			
Transfer cash	$CASH	PZ1, PZ2, or PZ3	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	CAP	if economic decision-maker is receiving, PVT if department is receiving, to CAPital or CURrent account
Create public institutional land use	$CVPT	PZ1, PZ2, or PZ3	PI	location	percent to be added to public institutional		
Demolish public institutional land use	$CVPT	PZ1, PZ2, or PZ3	RPI	location	percent to be subtracted from public institutional		

UTILITY DEPARTMENT: INPUT EXPLANATION FORM

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Purchase or bid on land	$PU	UT1, UT2, or UT3	location	price (in $100's)	seller (economic decision-maker or department or OU)	percent of parcel (0 if all)	
Change utility service	$CVPT	UT1, UT2, or UT3	US	location	location of plant serving	new level of service	
Change prices	$OTHER	UT1, UT2, or UT3	P	new price per unit of utility service			
Construct, upgrade or demolish a utility p plant	$OUBLD	UT1, UT2, or UT3	site location	UT	old level (0 if new plant)	new level (0 if demolition)	
Transfer cash	$CASH	UT1, UT2, or UT3	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	from CAPital or CURrent account	if economic decision-maker receiving, PVT; if department receiving, to CAPital or CURrent account

CITY III -- SMALL SCALE
BUS COMPANY: INPUT EXPLANATION FORM

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Change routes or level of service	$ROUT	BUS	route number	old level of service	new level of service (0 if eliminating route)	list, in parentheses, of intersections in order, where bus starts, turns, and finishes (0 if no changes to route location	0
Transfer cash	$CASH	BUS	C	receiver (economic decision-maker or department and jurisdiction)	amount (in dollars)	from CAPital or CURrent account	if economic decision-maker receiving, PVT if department receiving, to CAPital or CURrent account
Purchase Rolling Stock	$OTHER	BUS	PS	number of units of equipment			
Sell Rolling Stock	$OTHER	BUS	SS	number of units of equipment			

Type of Decision	Code	Decision-Maker	a	b	c	d	e
Set fares	$OTHER	BUS	P	base fare per worker, per journey (in ¢)	0	price per mile (in ¢)	
Change salaries	$OTHER	BUS	S	new salary to PM worker (specified as salary per worker in $100's)			
Change maintenance level	$OTHER	BUS	M	new maintenance level			